

Series 2 Examination 2009

CERTIFICATE IN MANAGEMENT ACCOUNTING

Level 3

Monday 30 March

Subject Code: 3023

Time allowed: **3 hours**

INSTRUCTIONS FOR CANDIDATES

- Answer **5** questions.
- All questions carry equal marks.
- Write your answers in blue or black ink/ballpoint. Pencil may be used only for graphs, charts, diagrams, etc.
- Begin your answer to each question on a new page.
- All workings must be shown.
- All answers must be correctly numbered but need not be in numerical order.
- You may use a calculator provided the calculator gives no printout, has no word display facilities, is silent and cordless. The provision of batteries and their condition is your responsibility.

QUESTION 1

- (a) Describe **activity based costing** (ABC) in contrast to traditional methods of attributing production overhead costs to products. Outline two advantages of using ABC. (8 marks)
- (b) Define, giving two examples, the term **service cost centre**. State why service cost centre costs in a factory need to be re-apportioned over production cost centres. (6 marks)
- (c) State **three** reasons why organisations decentralise. (6 marks)

(Total 20 marks)

QUESTION 2

A company manufactures and sells a single product with the following selling price and variable costs:

	£ per unit
Selling price	55.00
Variable costs:	
Direct material	20.86
Direct labour	8.94 (£7.45 per hour)
Overhead	4.47

In the next period, the direct labour force will be fully utilised on existing customer orders. No further work can be undertaken without restricting the manufacture of existing orders which would lead directly to lost sales.

The company has now been approached to supply a special order in the next period. The direct material cost of the special order would be £24,200 and 1,560 direct labour hours would be required. Variable overheads are assumed to vary with direct labour. The customer would be prepared to pay £63,000 for the special order.

REQUIRED

- (a) On the basis of the above information:
- (i) Calculate whether the special order is worthwhile (11 marks)
- (ii) Calculate the minimum selling price required to justify accepting the special order. (3 marks)
- (b) Describe **three** other factors that might influence the decision. (6 marks)

(Total 20 marks)

QUESTION 3

A company manufactures a product (Product Y) which is made up of three raw materials (Material X1, Material X2 and Material X3). The standard raw material cost of Product Y is £9.50 per unit of output.

In the period just ended, during which 62,240 units of Product Y were manufactured, the following raw material variances occurred:

Price variances (calculated on usage):

Material X1	£1,932	Favourable
Material X2	£6,800	Adverse
Material X3	£15,264	Favourable

Mix variances:

Material X1	No variance	
Material X2	£3,000	Favourable
Material X3	£4,250	Adverse

Yield variance £1,330 Favourable

REQUIRED

(a) Calculate, in relation to Product Y for the period just ended, the:

- (i) standard raw material cost of output (2 marks)
- (ii) standard cost of raw materials used (3 marks)
- (iii) actual cost of raw materials used (3 marks)
- (iv) total raw material usage variance. (2 marks)

Direct labour standards per unit of Product Y are 0.2 hours at £9.00 per hour. 12,110 direct labour hours were worked on the manufacture of the 62,240 units of Product Y in the period just ended at a cost of £110,201.

REQUIRED

(b) Calculate, in relation to Product Y for the period just ended, the:

- (i) direct labour rate variance (2 marks)
- (ii) direct labour efficiency ratio. (4 marks)

(c) Suggest possible causes of the figures calculated in (b).

(4 marks)

(Total 20 marks)

QUESTION 4

A company sells a product which requires two separate processes in the course of manufacture. At the beginning of a month 3,000 units were incomplete in Process 2 with the following costs and stages of completion:

Cost element	£	% completion
Process 1 costs	20,900	100
Material added in Process 2	8,175	80
Conversion costs	6,730	50

19,600 units were transferred to Process 2 from Process 1 during the month at a cost of £141,820. The other costs incurred in Process 2 in the month were:

	£
Material added in Process 2	70,050
Conversion costs	98,750

20,100 units were transferred from Process 2 to the finished goods warehouse in the month. 2,500 units remained incomplete in Process 2 at the end of the month with the following stages of completion:

Cost element	% completion
Process 1 costs	100
Material added in Process 2	90
Conversion costs	75

The weighted average cost method is used. No losses occur in Process 2.

REQUIRED

For Process 2 in the month:

- (a) Calculate the:
- (i) weighted average cost per unit for each cost element (7 marks)
 - (ii) cost of the units transferred to the finished goods warehouse (2 marks)
 - (iii) cost of the closing work-in-progress. (3 marks)
- (b) Prepare the process account including both units and cost. (5 marks)
- (c) Calculate the equivalent units of actual production during the month for each cost element. (3 marks)

(Total 20 marks)

QUESTION 5

Financial information relating to two investment centres in a company includes:

	Investment Centre A	Investment Centre B
	£	£
At end of Period 4:		
Fixed assets (net book value)	86,370	78,100
Current assets	73,300	32,220
Current liabilities	38,420	21,650
For Period 4:		
Sales	424,375	372,400
Net profit	13,580	14,896

REQUIRED

(a) Calculate, for **each investment centre** for Period 4, the:

- (i) net profit margin (%) (2 marks)
- (ii) net asset turnover (number of times) (3 marks)
- (iii) return on capital employed (%). (3 marks)

In **Investment Centre A** during Period 4:

- 80% of sales were on credit with the remaining 20% being cash sales.
- Average debtors were £52,090.
- Stock of finished goods averaged £55,500.
- The production cost of sales totalled £288,600.

REQUIRED

(b) Calculate the following ratios for **Investment Centre A** in Period 4:

- (i) debtor days (3 marks)
- (ii) stock turnover. (2 marks)

REQUIRED

(c) Demonstrate the relationship between the three ratios calculated in (a) for each investment centre and comment briefly on the financial performance of each centre on the basis of the ratios calculated in (a) and (b).

(7 marks)

(Total 20 marks)

QUESTION 6

A company is evaluating the investment in new machinery to increase sales of an existing product over a five-year period.

Two alternative machines are being considered, Machine 1 and Machine 2.

Production and sales units are expected to be:

	Machine 1	Machine 2
Year 1	19,000	15,000
Year 2	20,000	15,000
Year 3	20,000	23,000
Year 4	19,000	22,000
Year 5	18,000	21,000

Details of the two machines are:

	Machine 1	Machine 2
Cost	£310,000	£330,000
Life	5 years	5 years
Residual value	£30,000	£50,000

The product sells for £20 per unit.

If made on Machine 1, the product would have variable costs of £10 per unit. If made on Machine 2 the variable costs would be £9 per unit.

Fixed costs (inclusive of straight-line depreciation of the new machine) will rise by £90,000 per annum if Machine 1 is purchased, and by £120,000 per annum if Machine 2 is purchased. All annual fixed costs and unit variable costs will remain constant over the five year period.

The company has a cost of capital of 12% per annum.

Discount factors @12%:	Year 1	0.893
	Year 2	0.797
	Year 3	0.712
	Year 4	0.636
	Year 5	0.567

REQUIRED

(a) Evaluate the investment in **each** machine using each of the following methods:

(i) net present value (13 marks)

(ii) payback. (4 marks)

(b) Advise management as to which machine should be purchased giving reasons for your decision.

(3 marks)

(Total 20 marks)